```
=>  file registry
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STRUCTURE FILE UPDATES:   22 FEB 2006  HIGHEST RN 874945-83-2
DICTIONARY FILE UPDATES:  22 FEB 2006  HIGHEST RN 874945-83-2

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TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

  Please note that search-term pricing does apply when
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*********************************************************************
*                                                                   *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*                                                                   *
*********************************************************************

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FILE COVERS 1907 - 24 Feb 2006  VOL 144 ISS 10
FILE LAST UPDATED: 23 Feb 2006  (20060223/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply.
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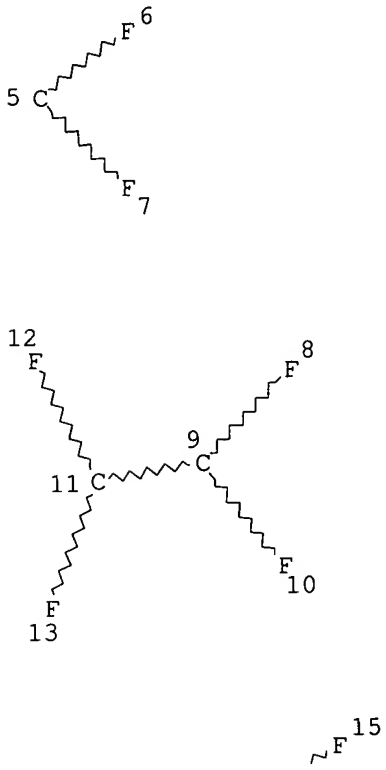
They are available for your review at:

http://www.cas.org/infopolicy.html
'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

=> d stat que l28
L18 STR



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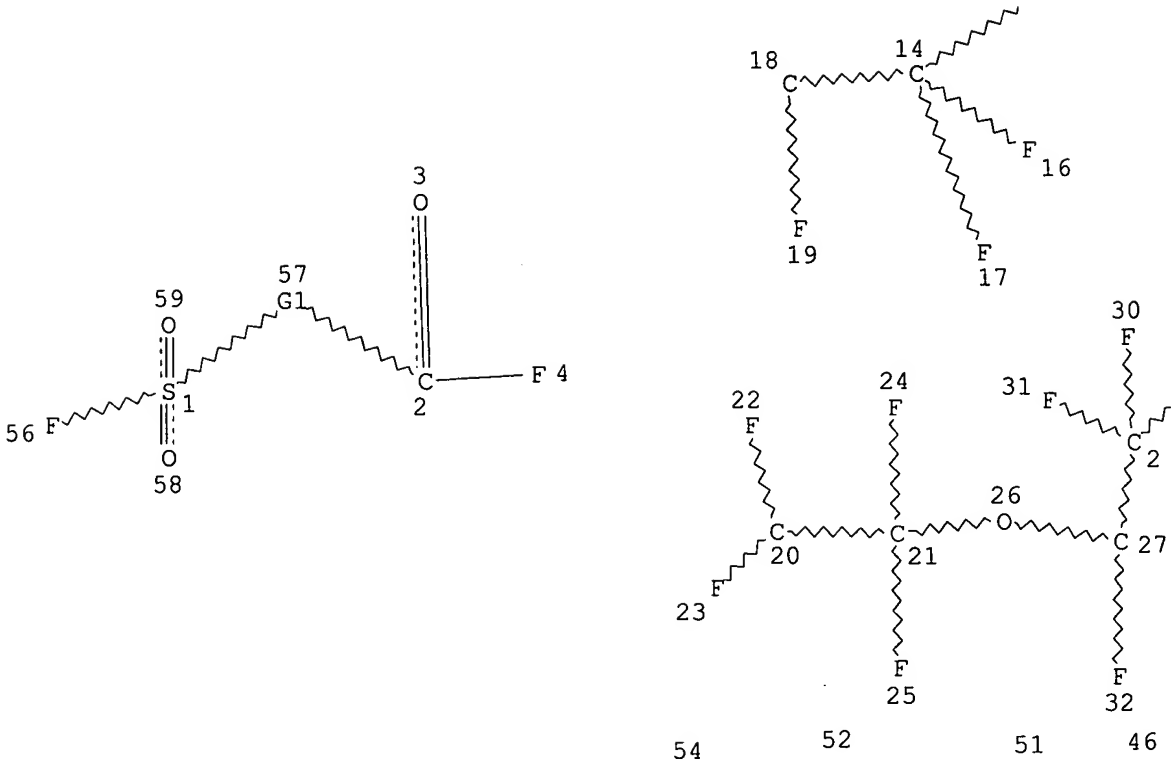

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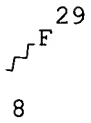

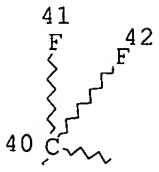

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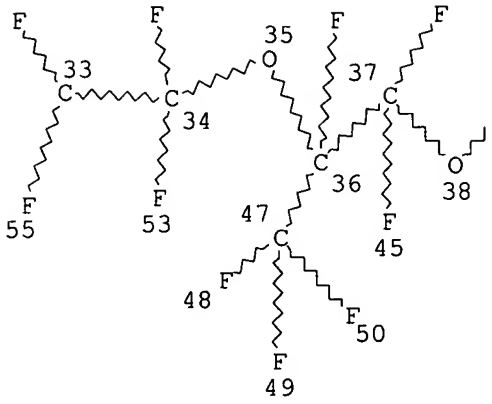

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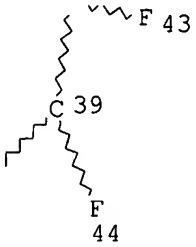

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GRAPH ATTRIBUTES:
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NUMBER OF NODES IS  59

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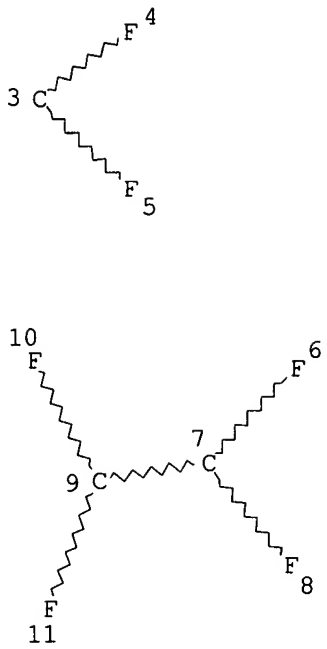

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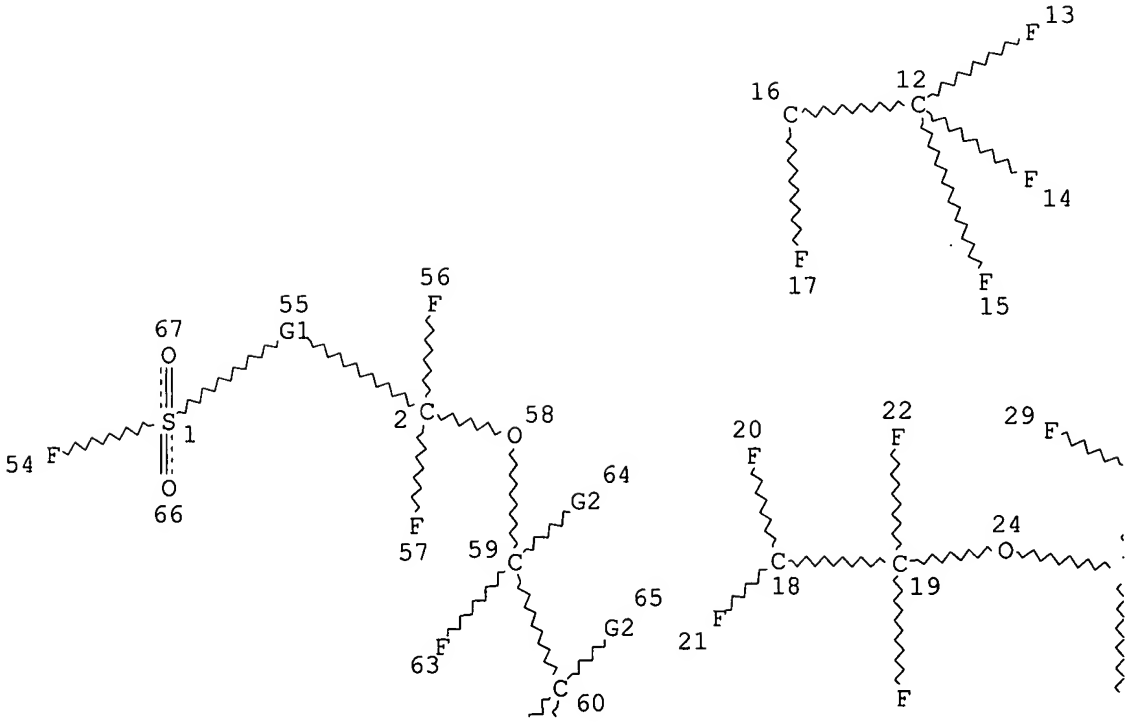

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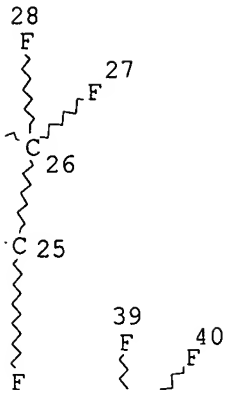

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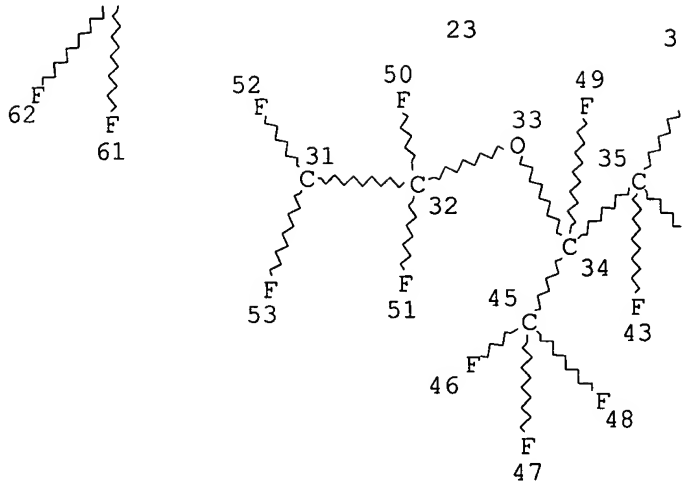

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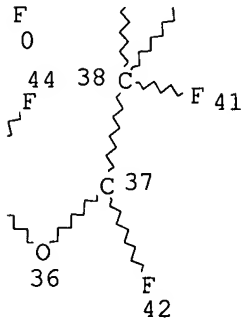

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  69

STEREO ATTRIBUTES: NONE
L25           6 SEA FILE=REGISTRY SSS FUL L23
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L28           8 SEA FILE=CAPLUS ABB=ON  PLU=ON  L22 AND L27


=> d ibib abs hitind hitstr L28 1-8

L28  ANSWER 1 OF 8  CAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         2004:753175  CAPLUS
DOCUMENT NUMBER:          141:260266
TITLE:                    Process for preparing (per)fluorohalogen ethers by the
                          reaction of acyl fluorides with halogenated
                          1,2-difluoroethylenes
INVENTOR(S):              Tortelli, Vito; Calini, Pierangelo; Millefanti,
                          Stefano
PATENT ASSIGNEE(S):       Solvay Solexis S.p.A., Italy
SOURCE:                   Eur. Pat. Appl., 8 pp.
                          CODEN: EPXXDW
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
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     EP 1457484            A1    20040915    EP 2004-4344             20040226
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     JP 2004269535         A2    20040930    JP 2004-65994            20040309
     US 2004199009         A1    20041007    US 2004-795995           20040310
     CN 1539818            A     20041027    CN 2004-10033085         20040311
PRIORITY APPLN. INFO.:                       IT 2003-MI444       A    20030311
OTHER SOURCE(S):          CASREACT 141:260266; MARPAT 141:260266
AB   A process for preparing (per)fluorohalogen ethers containing the sulfonyl
     fluoride group FSO2RCF2OCAFCA1F2 [A, A1 = Cl, Br; R = (per)fluorinated
     optionally containing one or more oxygen atoms] is described which comprises
     the reaction of acyl fluorides FSO2RCOF in the liquid phase with elemental
     fluorine and with olefinic compds. CAF:CA1F at -120° to
     -20°, optionally in the presence of a solvent inert under the
     reaction conditions.
IC   ICM  C07C303-22
     ICS  C07C309-82
CC   23-12 (Aliphatic Compounds)
```

Section cross-reference(s): 45

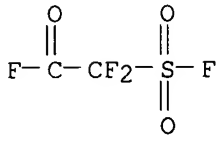
IT 76-15-3, cfc 115 359-21-7 598-88-9, 1,2-Dichloro-1,2-difluoroethylene **677-67-8**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(process for preparing (per)fluorohalogen ethers by the reaction of acyl fluorides with halogenated 1,2-difluoroethylenes)

IT **144728-59-6P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(process for preparing (per)fluorohalogen ethers by the reaction of acyl fluorides with halogenated 1,2-difluoroethylenes)

IT **677-67-8**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(process for preparing (per)fluorohalogen ethers by the reaction of acyl fluorides with halogenated 1,2-difluoroethylenes)

RN 677-67-8 CAPLUS

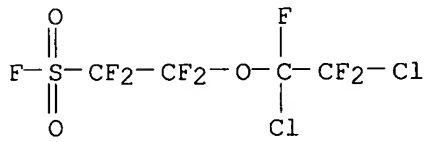
CN Acetyl fluoride, difluoro(fluorosulfonyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT **144728-59-6P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(process for preparing (per)fluorohalogen ethers by the reaction of acyl fluorides with halogenated 1,2-difluoroethylenes)

RN 144728-59-6 CAPLUS

CN Ethanesulfonyl fluoride, 2-(1,2-dichloro-1,2,2-trifluoroethoxy)-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:668857 CAPLUS

DOCUMENT NUMBER: 142:59591

TITLE: Synthesis of 3,6-dioxa-Δ7-4-trifluoromethyl perfluorooctyl trifluoromethyl sulfonimide: bis[(perfluoroalkyl)sulfonyl] superacid monomer and polymer

AUTHOR(S): Thomas, Brian H.; Shafer, Gregory; Ma, Jing Ji; Tu, Ming-Hu; DesMarteau, Darryl D.

CORPORATE SOURCE: H.L. Hunter Hall Chemistry Laboratory, Chemistry Department, Clemson University, Clemson, SC, 29634-1905, USA

SOURCE: Journal of Fluorine Chemistry (2004), 125(8), 1231-1240

CODEN: JFLCAR; ISSN: 0022-1139
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A new type of ion exchange polymer, bis[(perfluoroalkyl)sulfonyl]imide ionomers (PFSI), were developed by the copolymn. of sodium 3,6-dioxa-Δ7-4-trifluoromethyl perfluorooctyl trifluoromethyl sulfonimide with tetrafluoroethylene (TFE) using an aqueous redox initiation system in an emulsion type polymerization These polymers were prepared in various equivalent wts. and processed into functional membranes. The new ionomers exhibit excellent chemical and thermal stability. The materials have high potential for electrochem. applications especially as solid polymer electrolytes (SPE) in proton exchange membrane (PEM) fuel cells.

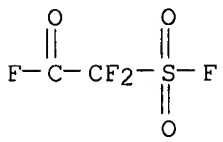
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 35, 38

IT **677-67-8P**, Fluorosulfonyldifluoroacetyl fluoride
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); PROC (Process); **RACT (Reactant or reagent)**
(compound 4; synthesis of 3,6-dioxa-Δ7-4-trifluoromethyl perfluorooctyl trifluoromethyl sulfonimide, bis[(perfluoroalkyl)sulfonyl] superacid monomer and polymer)

IT 64346-22-1P **78010-39-6P**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; PROC (Process); RACT (Reactant or reagent)
(compound 9; synthesis of 3,6-dioxa-Δ7-4-trifluoromethyl perfluorooctyl trifluoromethyl sulfonimide, bis[(perfluoroalkyl)sulfonyl] superacid monomer and polymer)

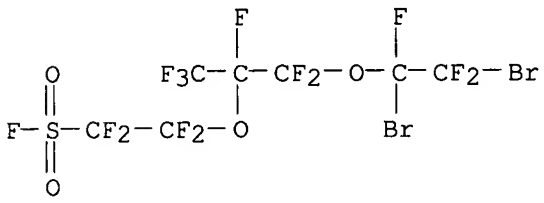
IT **677-67-8P**, Fluorosulfonyldifluoroacetyl fluoride
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); PROC (Process); **RACT (Reactant or reagent)**
(compound 4; synthesis of 3,6-dioxa-Δ7-4-trifluoromethyl perfluorooctyl trifluoromethyl sulfonimide, bis[(perfluoroalkyl)sulfonyl] superacid monomer and polymer)

RN 677-67-8 CAPLUS
CN Acetyl fluoride, difluoro(fluorosulfonyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT **78010-39-6P**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; PROC (Process); RACT (Reactant or reagent)
(compound 9; synthesis of 3,6-dioxa-Δ7-4-trifluoromethyl

perfluorooctyl trifluoromethyl sulfonimide,
bis[(perfluoroalkyl)sulfonyl] superacid monomer and polymer)
RN 78010-39-6 CAPLUS
CN Ethanesulfonyl fluoride, 2-[1-[(1,2-dibromo-1,2,2-trifluoroethoxy)difluoromethyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:289553 CAPLUS
DOCUMENT NUMBER: 140:321901
TITLE: Unsaturated fluorohydrocarbyl fluoroalkylsulfonates as substitutes for unsaturated fluoroalkylsulfonyl fluorides, and their manufacture
INVENTOR(S): Uematsu, Nobuyuki; Hoshi, Nobuto; Koga, Takehiro; Gronvald, Oliver; Ikeda, Masanori
PATENT ASSIGNEE(S): Asahi Kasei Corporation, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

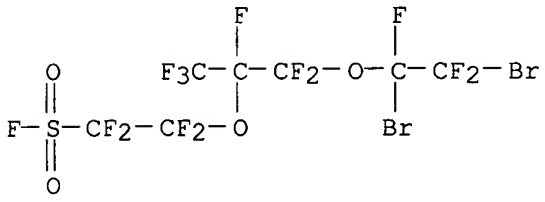
PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
JP 2004107313	A2	20040408	JP 2002-350246		20021202
PRIORITY APPLN. INFO.:			JP 2002-215050	A	20020724

OTHER SOURCE(S): MARPAT 140:321901
AB The fluorosulfonates, useful as monomers for separators for fuel cells and electrolysis of NaCl, etc., are CF2:CF[OCF2CF(CF3)]nO(CF2)mSO3Rf (I; Rf = fluorohydrocarbyl, m = 1-5; n = 0-2). Thus, CF2:CFOCF2CF2SO3H was treated with CH2:CF2 to give I (Rf = CF2Me, m = 2, n = 0).
IC ICM C07C309-10
ICS C07C303-28; C08F016-30
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 23, 52, 72
IT **78010-39-6P** 111173-24-1P 677315-21-8P 677315-22-9P 677315-24-1P 677315-25-2P 677315-27-4P 677315-28-5P 677315-31-0P 677315-32-1P 677315-33-2P 677315-34-3P
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(manufacture of unsatd. fluorohydrocarbyl fluoroalkylsulfonates as monomers for separators for fuel cells and electrolysis of NaCl)
IT 75-38-7, Vinylidene fluoride 75-89-8, 2,2,2-Trifluoroethanol 76-37-9 920-66-1 **4089-57-0** 16090-14-5 26953-98-0
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**

(manufacture of unsatd. fluorohydrocarbyl fluoroalkylsulfonates as monomers for separators for fuel cells and electrolysis of NaCl)

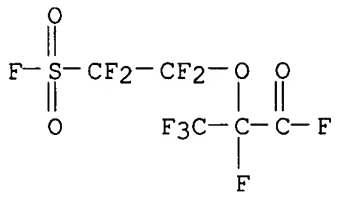
IT **78010-39-6P**
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(manufacture of unsatd. fluorohydrocarbyl fluoroalkylsulfonates as monomers for separators for fuel cells and electrolysis of NaCl)

RN 78010-39-6 CAPLUS
CN Ethanesulfonyl fluoride, 2-[1-[(1,2-dibromo-1,2,2-trifluoroethoxy)difluoromethyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



IT **4089-57-0**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(manufacture of unsatd. fluorohydrocarbyl fluoroalkylsulfonates as monomers for separators for fuel cells and electrolysis of NaCl)

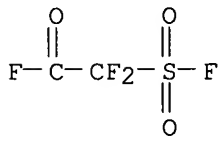
RN 4089-57-0 CAPLUS
CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]- (9CI) (CA INDEX NAME)



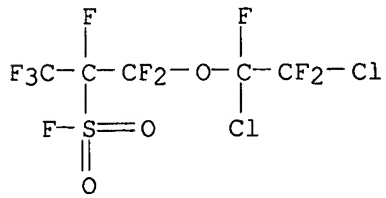
L28 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:163674 CAPLUS
DOCUMENT NUMBER: 138:169855
TITLE: Process for the synthesis of perfluorosulfonylalkyl hypofluorites
INVENTOR(S): Navarrini, Walter
PATENT ASSIGNEE(S): Ausimont S.p.A., Italy
SOURCE: Ital. Appl., 25 pp.
CODEN: ITXXCZ
DOCUMENT TYPE: Patent
LANGUAGE: Italian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IT 2000MI1846	A1	20020208	IT 2000-MI1846	20000808
IT 1318672	B1	20030827		

PRIORITY APPLN. INFO.: IT 2000-MI1846 20000808
OTHER SOURCE(S): CASREACT 138:169855; MARPAT 138:169855
AB Hypofluorites FSO2-Rf-CF2OF [Rf = CF2, CF2CF2, CF(CF3), CF2CF2OCF(CF3)] were prepared by fluorination of acyl fluorides FSO2-Rf-COF or corresponding sultones [when Rf = CF2, OCF(CF3)] over a supported CsF or KF catalyst. Thus, fluorination of perfluoropropene sultone (2 mmol) with 4 mmol F2 over a CsF/NaF catalyst (1 h at 200 mbar and room temperature) yielded FSO2CF(CF3)CF2OF which reacted with 8 mmol CFCl:CFCl to afford 53% FSO2CF(CF3)CF2OCFClCF2Cl.
IC ICM C07C309-78
CC 23-11 (Aliphatic Compounds)
IT 74-85-1, Ethylene, reactions 75-01-4, Chloroethylene, reactions
79-38-9, 2 Chloro 1 1 2 trifluoroethylene 540-59-0, 1 2 Dichloroethylene
598-88-9, 1 2 Dichloro 1 2 difluoroethylene **677-67-8** 697-18-7
773-15-9 89413-95-6 89413-97-8
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(preparation of perfluorosulfonylalkyl hypofluorites from perfluorosulfonylalkanoyl fluorides)
IT 115784-53-7P **144728-64-3P** 496922-45-3P 496922-46-4P
496922-47-5P 496922-48-6P 496922-49-7P 496922-50-0P 496922-51-1P
496922-52-2P 496922-54-4P 496922-55-5P
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of perfluorosulfonylalkyl hypofluorites from perfluorosulfonylalkanoyl fluorides)
IT **677-67-8**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(preparation of perfluorosulfonylalkyl hypofluorites from perfluorosulfonylalkanoyl fluorides)
RN 677-67-8 CAPLUS
CN Acetyl fluoride, difluoro(fluorosulfonyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT **144728-64-3P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of perfluorosulfonylalkyl hypofluorites from perfluorosulfonylalkanoyl fluorides)
RN 144728-64-3 CAPLUS
CN 2-Propanesulfonyl fluoride, 1-(1,2-dichloro-1,2,2-trifluoroethoxy)-1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



L28 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:615562 CAPLUS
DOCUMENT NUMBER: 137:169968
TITLE: Manufacture of perfluorovinyl ether monomer having sulfonamide group and its use for solid electrolyte membrane
INVENTOR(S): Ikeda, Masanori; Hoshi, Nobuto; Uematsu, Nobuyuki; Koga, Takehiro
PATENT ASSIGNEE(S): Asahi Kasei Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 215 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002062749	A1	20020815	WO 2002-JP854	20020201
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1359142	A1	20031105	EP 2002-711282	20020201
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1500075	A	20040526	CN 2002-807780	20020201
US 2004122256	A1	20040624	US 2003-470802	20030801

PRIORITY APPLN. INFO.:

JP 2001-25018	A	20010201
JP 2001-30955	A	20010207
JP 2001-278418	A	20010913
JP 2001-342172	A	20011107
JP 2001-343780	A	20011108
JP 2001-343931	A	20011108
WO 2002-JP854	W	20020201

OTHER SOURCE(S): MARPAT 137:169968

AB A perfluorovinyl ether monomer represented by CF2CF(OCF2CFCF3)mO(CF2)nSO2NR1R2 (wherein m = 0-5 integer; n = 1-5 integer; R1, R2 = H, C1-10 (un)substituted hydrocarbyl, substituted silyl; R1 and R2 may be bonded to each other to form a ring) and its polymers are prepared and the polymer films are used as solid electrolyte membrane. Neutralization of CF3CF(COF)OCF2CF2SO3F with Na2CO3, amidation with diethylamine and n-BuLi, and decarboxylation gave CF2:CFOCF2CF2SO3NEt2. Copolymn. of this monomer with tetrafluoroethylene and press molding at 250° gave a membrane useful for solid electrolyte.

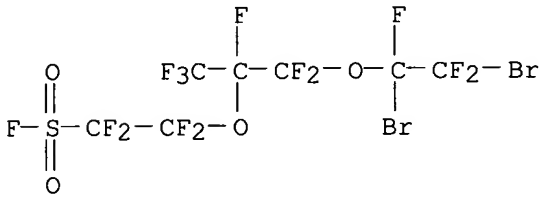
IC ICM C07C311-24
ICS C07C303-36; C07F007-12; C08F214-26; C08F216-14; H01M008-02
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38, 52
IT 75549-02-9P 75718-06-8P **78010-39-6P 144728-59-6P**
445293-56-1P 445293-57-2P 445293-58-3P 445293-59-4P 445293-60-7P
445293-61-8P 446312-49-8P 446312-51-2P 446312-52-3P 446312-53-4P
446312-54-5P 446312-55-6P 446312-56-7P 446312-57-8P 446312-58-9P

446312-59-0P 446312-61-4P 446312-62-5P 446312-63-6P 446312-65-8P
446312-68-1P 446312-69-2P 446312-70-5P 446312-71-6P 446312-72-7P
446312-75-0P
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(manufacture of perfluorovinyl ether monomer having sulfonamide group for preparation of solid electrolyte membrane)

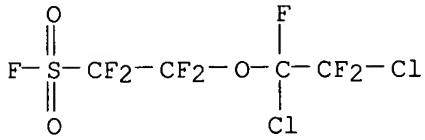
IT 62-53-3, Aniline, reactions 75-64-9, tert-Butylamine, reactions 109-89-7, Diethylamine, reactions 109-97-7, Pyrrole 124-40-3, Dimethylamine, reactions 288-32-4, Imidazole, reactions 999-97-3, Hexamethyldisilazane 1070-89-9, Sodium hexamethyldisilazide **4089-57-0 4089-58-1** 29514-94-1 77545-08-5
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(manufacture of perfluorovinyl ether monomer having sulfonamide group for preparation of solid electrolyte membrane)

IT **78010-39-6P 144728-59-6P**
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(manufacture of perfluorovinyl ether monomer having sulfonamide group for preparation of solid electrolyte membrane)

RN 78010-39-6 CAPLUS
CN Ethanesulfonyl fluoride, 2-[1-[(1,2-dibromo-1,2,2-trifluoroethoxy)difluoromethyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)

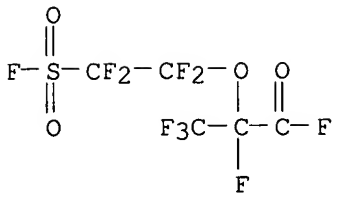


RN 144728-59-6 CAPLUS
CN Ethanesulfonyl fluoride, 2-(1,2-dichloro-1,2,2-trifluoroethoxy)-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)

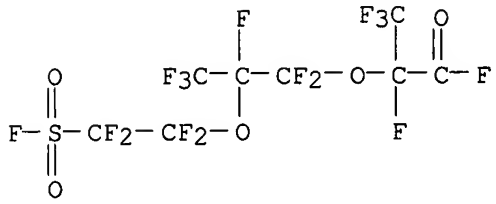


IT **4089-57-0 4089-58-1**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(manufacture of perfluorovinyl ether monomer having sulfonamide group for preparation of solid electrolyte membrane)

RN 4089-57-0 CAPLUS
CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]- (9CI) (CA INDEX NAME)



RN 4089-58-1 CAPLUS
CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]propoxy]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:607663 CAPLUS
DOCUMENT NUMBER: 137:155315
TITLE: One-step manufacture of sulfonic acid group-containing fluoropolymers
INVENTOR(S): Koga, Takehiro; Hoshi, Nobuto; Ikeda, Masanori
PATENT ASSIGNEE(S): Asahi Kasei Corporation, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002226514	A2	20020814	JP 2001-30967	20010207
PRIORITY APPLN. INFO.:			JP 2001-30967	20010207

AB The fluoropolymers, useful for fuel cell electrolytes, are manufactured by acid treatment of polymers having repeating units CF2CF[(OCF2CFCF3)mO(CF2)nSO2NR1R2] (R1,2 = H, alkyl, aryl, aralkyl, silyl; R1-R2 may form ring; m = 0, 1; n = 2, 3). Sulfonamide groups-containing fluoropolymers, having repeating units CF2CF[O(CF2)nSO2NRR2] (R1,2, m, n = same as above), are also claimed. Thus, a fluoropolymer film having a unit CF2CF[OCF2CF(CF3)OCF2CF2SO2NEt2], showing good antiblocking properties, was immersed in 3N H2SO4 at 130° for 1.5 h to convert SO2NEt2 to SO3H.

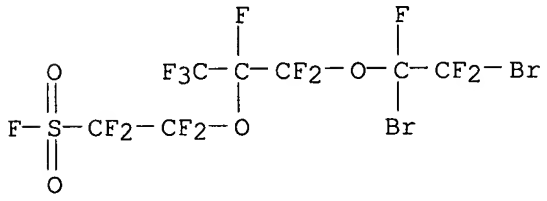
IC ICM C08F008-12
ICS C08F016-30; H01M008-02
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 52
IT **78010-39-6P** 445293-56-1P 445293-59-4P 445293-60-7P

RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(one-step manufacture of sulfonic acid group-containing fluoropolymers by acid
hydrolysis of sulfonamide group-containing precursors)

IT **4089-57-0**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(one-step manufacture of sulfonic acid group-containing fluoropolymers by acid
hydrolysis of sulfonamide group-containing precursors)

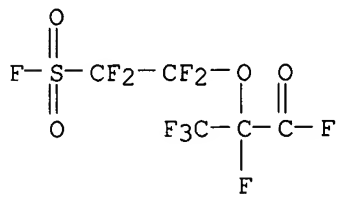
IT **78010-39-6P**
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(one-step manufacture of sulfonic acid group-containing fluoropolymers by acid
hydrolysis of sulfonamide group-containing precursors)

RN 78010-39-6 CAPLUS
CN Ethanesulfonyl fluoride, 2-[1-[(1,2-dibromo-1,2,2-trifluoroethoxy)difluoromethyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



IT **4089-57-0**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(one-step manufacture of sulfonic acid group-containing fluoropolymers by acid
hydrolysis of sulfonamide group-containing precursors)

RN 4089-57-0 CAPLUS
CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]- (9CI) (CA INDEX NAME)



L28 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982:617423 CAPLUS
DOCUMENT NUMBER: 97:217423
TITLE: Solutions of sulfonyl fluorides and fluoropolymers
INVENTOR(S): Silva, Raimund H.; Resnick, Paul R.; Smith, Roger A.
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co. , USA
SOURCE: U.S., 10 pp. Cont.-in-part of U.S. Ser. No. 79,173, abandoned.

CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

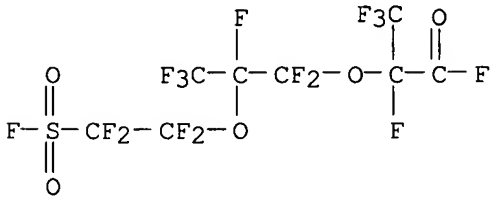
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4348310	A	19820907	US 1980-176595	19800808
JP 56050947	A2	19810508	JP 1980-131781	19800924
FR 2465753	A1	19810327	FR 1980-20590	19800925
FR 2465753	B1	19840427		
GB 2066824	A	19810715	GB 1980-30900	19800925
GB 2066824	B2	19830824		
US 4414280	A	19831108	US 1981-327062	19811203
US 4446269	A	19840501	US 1982-354194	19820303

PRIORITY APPLN. INFO.: US 1979-79173 A2 19790926
US 1980-176595 A 19800808

OTHER SOURCE(S): MARPAT 97:217423

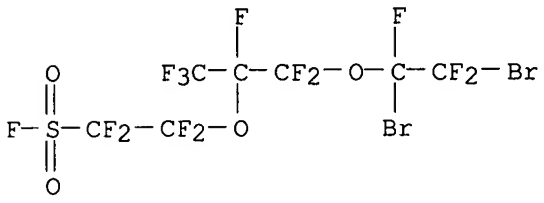
AB Solvents for fluoropolymers useful in casting reverse osmosis membranes have the composition CF2XCFXO[CF2C(CF3)FO]n(CF2)mY (X = halogen; n = 0, 1; m = 1-3; Y = CO2Me, SO2F). Thus, 3276.1 g perfluoro[2-(2-fluorosulfonylethoxy)propyl vinyl ether) [16090-14-5] was chlorinated to give 2533.8g perfluoro[2-(2-fluorosulfonylethoxy)propyl-1,2-dichloroethyl ether] (I) [68860-43-5]. perfluoro[2-(2-fluorosulfonylethoxy-2-trifluoromethylethyl)]vinyl ether-tetrafluoroethylene copolymer [26654-97-7] (2 G) was dissolved in 45 g I, and 5 mL solution was cast to give a film which was dried at 80°/300 mm. The film was hydrozlyzed with 28% NaOH at 80° to give a membrane which was tested in 0.3% NaCl in a hyperfiltration cell. The water flux d. at 5700 KPa was 1.872 + 10-6 m/s, and the salt rejection was 82.6%.

IC C08K005-42; C08K005-10
INCL 524167000
CC 37-6 (Plastics Manufacture and Processing)
IT **4089-58-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(fluorination of)
IT 69116-73-0P **78010-39-6P**
RL: **PREP (Preparation)**
(preparation of)
IT **4089-58-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(fluorination of)
RN 4089-58-1 CAPLUS
CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]propoxy]- (9CI) (CA INDEX NAME)



IT **78010-39-6P**

RL: **PREP (Preparation)**
(preparation of)
RN 78010-39-6 CAPLUS
CN Ethanesulfonyl fluoride, 2-[1-[(1,2-dibromo-1,2,2-trifluoroethoxy)difluoromethyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



L28 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1981:605062 CAPLUS
DOCUMENT NUMBER: 95:205062
TITLE: Solutions of copolymers of perfluoroethylene and a fluorosulfonated or carboxylated vinyl monomer in a saturated perhalogenated liquid
INVENTOR(S): Silva, Raimund Heinrich; Resnick, Paul Raphael; Smith, Roger Alton
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA
SOURCE: Fr. Demande, 33 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
FR 2465753	A1	19810327	FR 1980-20590		19800925
FR 2465753	B1	19840427			
US 4348310	A	19820907	US 1980-176595		19800808
PRIORITY APPLN. INFO.:			US 1979-79173	A	19790926
			US 1980-176595	A	19800808

AB ClCF2CClFOCF2CF(CF3)OCF2CF2SO2F (I) [68860-43-5], ClCF2CClFOCF2CF(CF3)OCF2CF2CO2Me [78010-35-2], FSO2CF2CF2OCF(CF3)CF2OCF(CF3)SO2F [78010-40-9], and 19 similar compds. are used as solvents for copolymers of F2C:CF2 and F2C:CFOCF2CF(CF3)OCF2CF2CO2Me or F2C:CFOCF2CF(CF3)OCF2CF2SO2F (II). The solns. are useful for the preparation and repair of membranes, for coating catalyst supports in the preparation of catalyst, etc. Thus, a solution of 2 g F2C:CF2-II copolymer [26654-97-7] in 45 g I was cast to prepare a membrane. The membrane was hydrolyzed with aqueous NaOH at 80° to prepare an ultrafiltration membrane which gave 82.6% rejection of NaCl during filtration.
IC C08F214-26; C08F002-06; B01D013-00; B01J035-00
CC 37-1 (Plastics Fabrication and Uses)
IT **4089-58-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(decarbonylation of)
IT 27744-59-8P 78010-36-3P **78010-39-6P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**

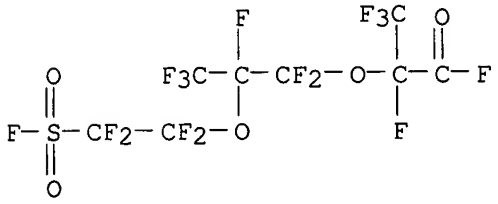
(preparation of)

IT **677-67-8**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(reaction of, with tetrafluoroethylene)

IT **4089-58-1**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(decarbonylation of)

RN 4089-58-1 CAPLUS

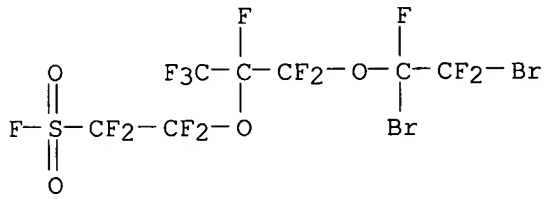
CN Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-[1,1,2,2-tetrafluoro-2-(fluorosulfonyl)ethoxy]propoxy]- (9CI) (CA INDEX NAME)



IT **78010-39-6P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of)

RN 78010-39-6 CAPLUS

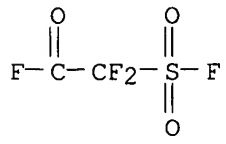
CN Ethanesulfonyl fluoride, 2-[1-[(1,2-dibromo-1,2,2-trifluoroethoxy)difluoromethyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro- (9CI) (CA INDEX NAME)



IT **677-67-8**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(reaction of, with tetrafluoroethylene)

RN 677-67-8 CAPLUS

CN Acetyl fluoride, difluoro(fluorosulfonyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



Search history

Keys 10/795995 02/24/2006

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L18              STRUCTURE UPLOADED
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                 D SCA
L20           11 SEA SSS FUL L18
                 SAVE TEMP L20 KEYSFLUSTRA/A

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L21          128 SEA ABB=ON  PLU=ON  L20

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     FILE 'CAPLUS' ENTERED AT 15:43:53 ON 24 FEB 2006
L22           88 SEA ABB=ON  PLU=ON  L20 (L) (RACT OR RCT OR RGT)/RL

     FILE 'REGISTRY' ENTERED AT 15:56:27 ON 24 FEB 2006
L23              STRUCTURE UPLOADED
L24            0 SEA SSS SAM L23
L25            6 SEA SSS FUL L23
                 SAVE TEMP KEYSFLUSTRB/A L25

     FILE 'CAPLUS' ENTERED AT 15:57:59 ON 24 FEB 2006
L26           24 SEA ABB=ON  PLU=ON  L25
L27           18 SEA ABB=ON  PLU=ON  L25 (L) PREP/RL
L28            8 SEA ABB=ON  PLU=ON  L22 AND L27

     FILE 'CASREACT' ENTERED AT 15:59:31 ON 24 FEB 2006
L29            1 SEA ABB=ON  PLU=ON  L20/RRT (L) L25/PRO
                 D SCA

     FILE 'CASREACT' ENTERED AT 16:02:52 ON 24 FEB 2006
                 D STAT QUE L29
                 D IBIB ABS HIT L29 1

     FILE 'REGISTRY' ENTERED AT 16:05:39 ON 24 FEB 2006

     FILE 'CAPLUS' ENTERED AT 16:05:42 ON 24 FEB 2006
                 D STAT QUE L28
                 D IBIB ABS HITIND HITSTR L28 1-8


     FILE HOME

     FILE REGISTRY
     Property values tagged with IC are from the ZIC/VINITI data file
     provided by InfoChem.

     STRUCTURE FILE UPDATES:   22 FEB 2006  HIGHEST RN 874945-83-2
     DICTIONARY FILE UPDATES:  22 FEB 2006  HIGHEST RN 874945-83-2

     New CAS Information Use Policies, enter HELP USAGETERMS for details.

     TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006
```

Please note that search-term pricing does apply when conducting SmartSELECT searches.

****
* *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
* *
****

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

FILE CAPLUS

FILE COVERS 1907 - 24 Feb 2006 VOL 144 ISS 10
FILE LAST UPDATED: 23 Feb 2006 (20060223/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

http://www.cas.org/infopolicy.html

FILE STNGUIDE
FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Feb 17, 2006 (20060217/UP).

FILE BEILSTEIN
FILE LAST UPDATED ON JANUARY 17, 2006

FILE COVERS 1771 TO 2005.
FILE CONTAINS 9,428,406 SUBSTANCES

>>>PLEASE NOTE: Reaction Data and substance data are stored in separate documents and can not be searched together in one query. Reaction data for BEILSTEIN compounds may be displayed immediately with the display codes PRE (preparations) and REA (reactions). A substance answer set retrieved after the search for a chemical name, a compounds with available reaction information by combining with PRE/FA, REA/FA or more generally with RX/FA. The BEILSTEIN Registry Number (BRN) is the link

between a BEILSTEIN compound and belonging reactions. For mo
detailed reaction searches BRNs can be searched as reaction
partner BRNs Reactant BRN (RX.RBRN) or Product BRN (RX.PBRN).<<<

>>> FOR SEARCHING PREPARATIONS SEE HELP PRE <<<

****
* PLEASE NOTE THAT THERE ARE NO FORMATS FREE OF COST. *
* SET NOTICE FEATURE: THE COST ESTIMATES CALCULATED FOR SET NOTICE *
* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE *
* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS. *
* FOR PRICE INFORMATION SEE HELP COST *
****

NEW

*** PATENT NUMBERS (PN) AND BABS ACCESSION NUMBERS (BABSAN) CAN NOW BE SEARCHED, SELECTED AND TRANSFERRED.**

*** NEW DISPLAY FORMATS ALLREF, ALLP AND BABSAN SHOW ALL REFERENCES, ALL PATENT REFERENCES, OR ALL BABS ACCESSION NUMBERS FOR A COMPOUND AT A GLANCE.**

FILE BABS
FILE LAST UPDATED: 10 JAN 2006 <20060110/UP>
FILE COVERS 1980 TO DATE.

FILE CASREACT
Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications.

FILE CONTENT:1840 - 19 Feb 2006 VOL 144 ISS 8

New CAS Information Use Policies, enter HELP USAGETERMS for details.

****
* *
* CASREACT now has more than 10 million reactions *
* *
****

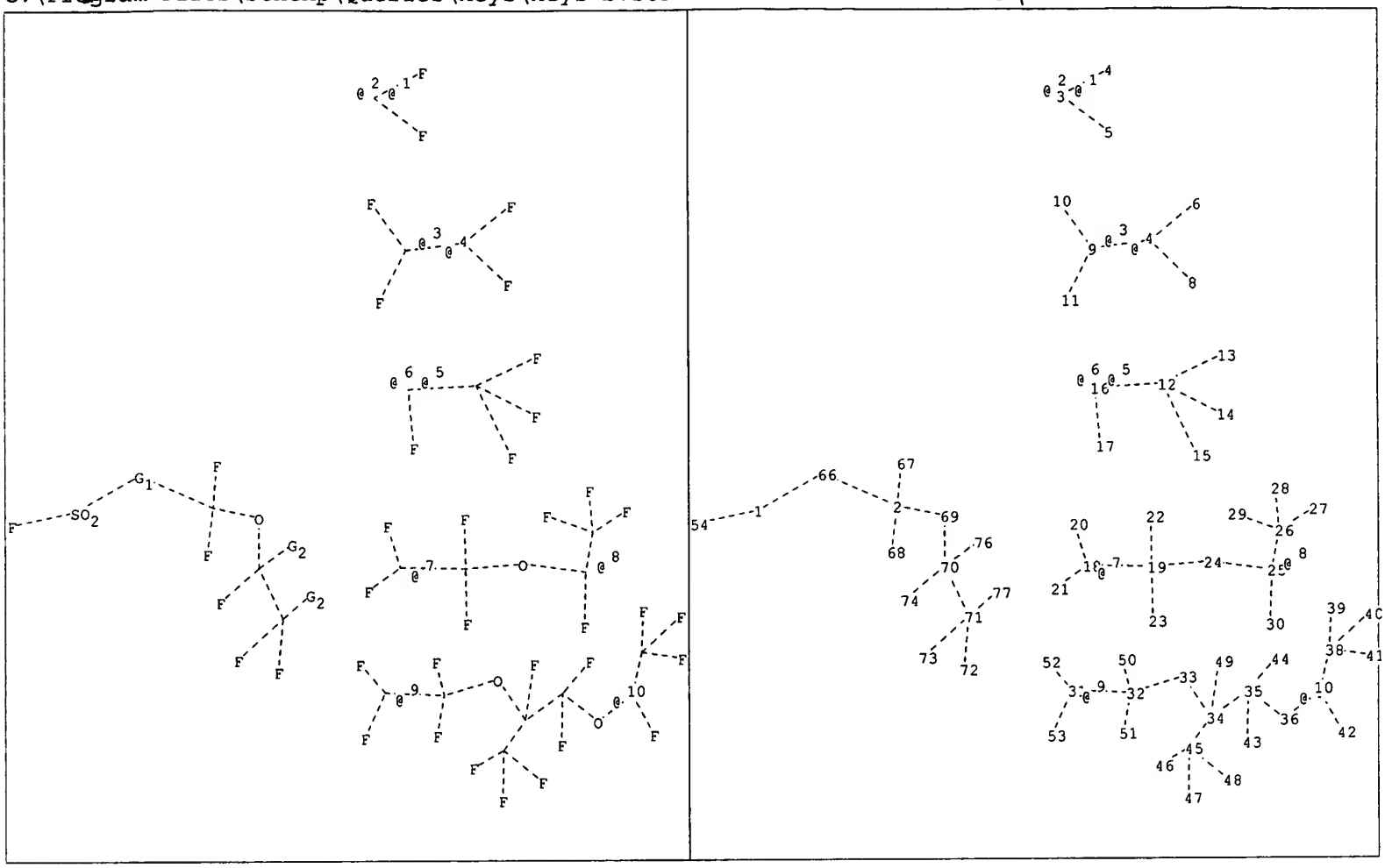
Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=>

C:\Program Files\Stnexp\Queries\keys\keys-b.str

Structure "L23"



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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
48 49 50 51 52 53 54 66 67 68 69 70 71 72 73 74 76 77
chain bonds :
1-54 1-66 2-66 2-67 2-68 2-69 3-4 3-5 6-7 7-8 7-9 9-10 9-11 12-13 12-14
12-15 12-16 16-17 18-19 18-20 18-21 19-22 19-23 19-24 24-25 25-26 25-30 26-27
26-28 26-29 31-32 31-52 31-53 32-33 32-50 32-51 33-34 34-35 34-45 34-49 35-36
35-43 35-44 36-37 37-38 37-42 38-39 38-40 38-41 45-46 45-47 45-48 69-70 70-71
70-74 70-76 71-72 71-73 71-77
exact/norm bonds :
1-54 1-66 2-66 2-67 2-68 2-69 3-4 3-5 6-7 7-8 7-9 9-10 9-11 12-13 12-14
12-15 12-16 16-17 18-19 18-20 18-21 19-22 19-23 19-24 24-25 25-26 25-30 26-27
26-28 26-29 31-32 31-52 31-53 32-33 32-50 32-51 33-34 34-35 34-45 34-49 35-36
35-43 35-44 36-37 37-38 37-42 38-39 38-40 38-41 45-46 45-47 45-48 69-70 70-71
70-74 70-76 71-72 71-73 71-77

G1:[*1-*2],[*3-*4],[*5-*6],[*7-*8],[*9-*10]

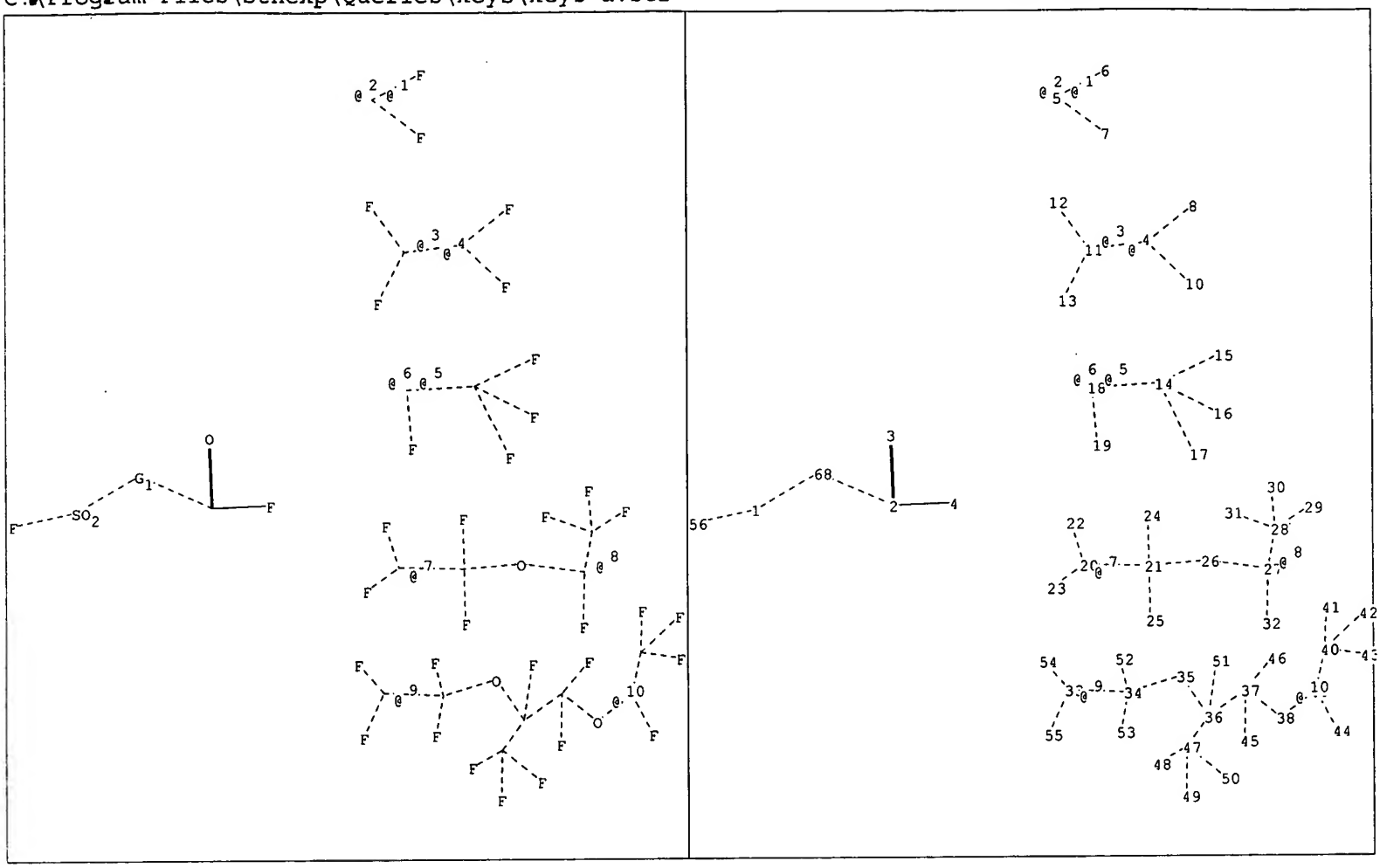
G2:Cl,Br

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:CLASS
11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS
20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS
29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 36:CLASS 37:CLASS
38:CLASS

39:CLASS 40:CLASS 41:CLASS 42:CLASS 43:CLASS 44:CLASS 45:CLASS 46:CLASS
47:CLASS 48:CLASS 49:CLASS 50:CLASS 51:CLASS 52:CLASS 53:CLASS 54:CLASS 66:CLASS
67:CLASS 68:CLASS 69:CLASS 70:CLASS 71:CLASS 72:CLASS 73:CLASS 74:CLASS 76:CLASS
77:CLASS

C:\Program Files\Stnexp\Queries\keys\keys-a.str

structure "L18"



chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
48 49 50 51 52 53 54 55 56 68

chain bonds :
1-56 1-68 2-3 2-4 2-68 5-6 5-7 8-9 9-10 9-11 11-12 11-13 14-15 14-16 14-17
14-18 18-19 20-21 20-22 20-23 21-24 21-25 21-26 26-27 27-28 27-32 28-29 28-30
28-31 33-34 33-54 33-55 34-35 34-52 34-53 35-36 36-37 36-47 36-51 37-38 37-45
37-46 38-39 39-40 39-44 40-41 40-42 40-43 47-48 47-49 47-50

exact/norm bonds :
1-56 1-68 2-3 2-68 5-6 5-7 8-9 9-10 9-11 11-12 11-13 14-15 14-16 14-17
14-18 18-19 20-21 20-22 20-23 21-24 21-25 21-26 26-27 27-28 27-32 28-29 28-30
28-31 33-34 33-54 33-55 34-35 34-52 34-53 35-36 36-37 36-47 36-51 37-38 37-45
37-46 38-39 39-40 39-44 40-41 40-42 40-43 47-48 47-49 47-50

exact bonds :
2-4

G1:[*1-*2],[*3-*4],[*5-*6],[*7-*8],[*9-*10]

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:CLASS
11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS
20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS
29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 36:CLASS 37:CLASS
38:CLASS 39:CLASS 40:CLASS 41:CLASS 42:CLASS 43:CLASS 44:CLASS 45:CLASS 46:CLASS
47:CLASS 48:CLASS 49:CLASS 50:CLASS 51:CLASS 52:CLASS 53:CLASS 54:CLASS 55:CLASS
56:CLASS

CASREACT


```
> file casreact
FILE 'CASREACT' ENTERED AT 16:02:52 ON 24 FEB 2006
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

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for records published or updated in Chemical Abstracts after December
26, 1996), unless otherwise indicated in the original publications.

FILE CONTENT:1840 - 19 Feb 2006 VOL 144 ISS 8

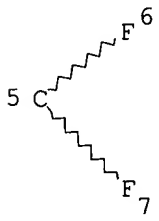
New CAS Information Use Policies, enter HELP USAGETERMS for details.

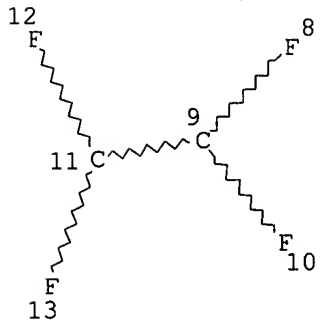
************************************************************
*                                                          *
*     CASREACT now has more than 10 million reactions      *
*                                                          *
************************************************************

Some CASREACT records are derived from the ZIC/VINITI database (1974-1991)
provided by InfoChem, INPI data prior to 1986, and Biotransformations
database compiled under the direction of Professor Dr. Klaus Kieslich.

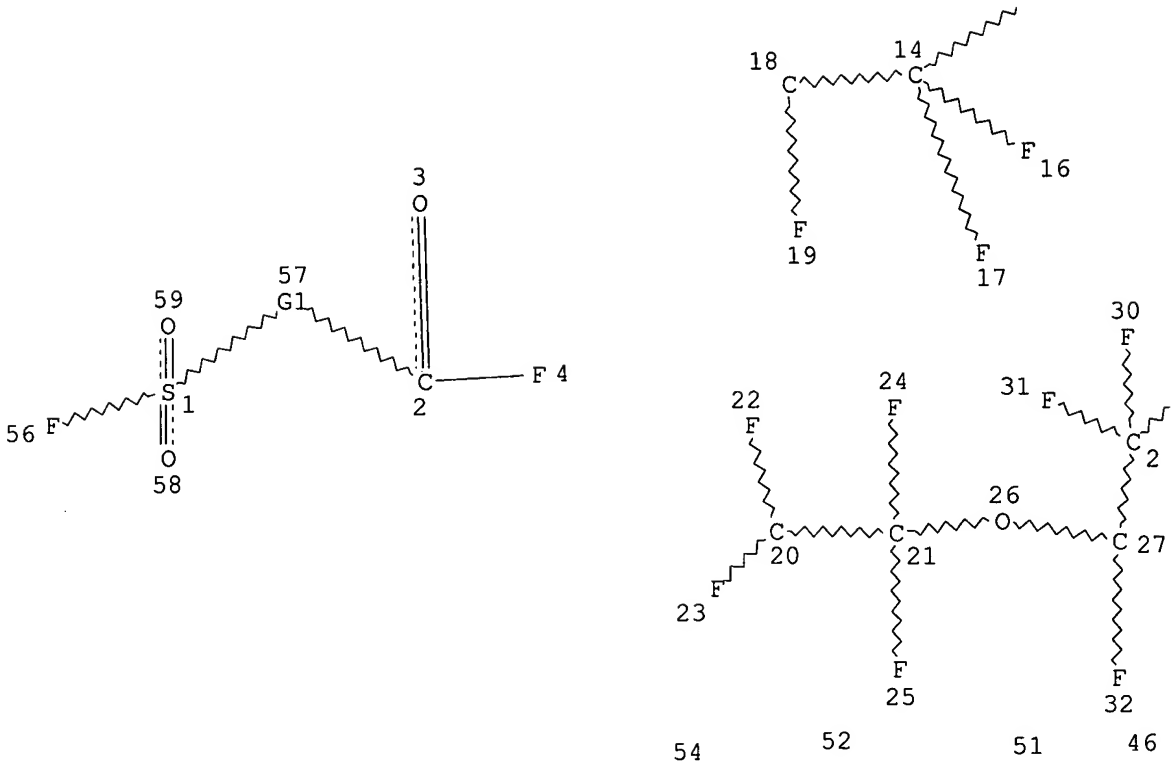
This file contains CAS Registry Numbers for easy and accurate substance
identification.

=> d stat que L29
L18             STR
```

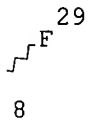


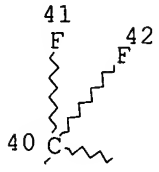


Page 1-A

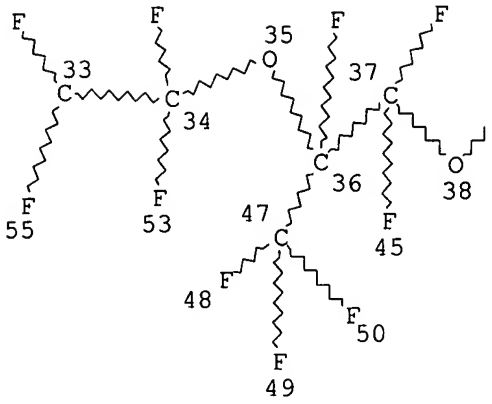


Page 2-A

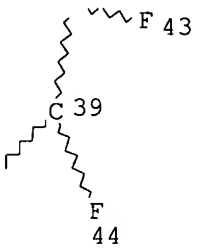




Page 2-B



Page 3-A



Page 3-B
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NSPEC	IS C	AT	2
NSPEC	IS C	AT	3
NSPEC	IS C	AT	4
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NSPEC	IS C	AT	24
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NSPEC	IS C	AT	28

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NSPEC   IS C      AT  30
NSPEC   IS C      AT  31
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NSPEC   IS C      AT  58
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MLEVEL  IS CLASS  AT   1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17
          18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38
          39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 58 59
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  59

STEREO ATTRIBUTES: NONE
L20           11 SEA FILE=REGISTRY SSS FUL L18
L23              STR
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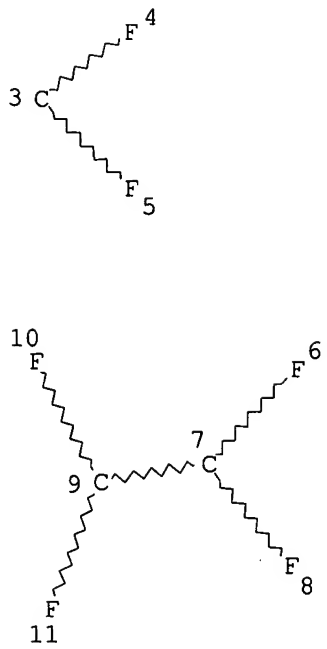
Cl 68Br 69



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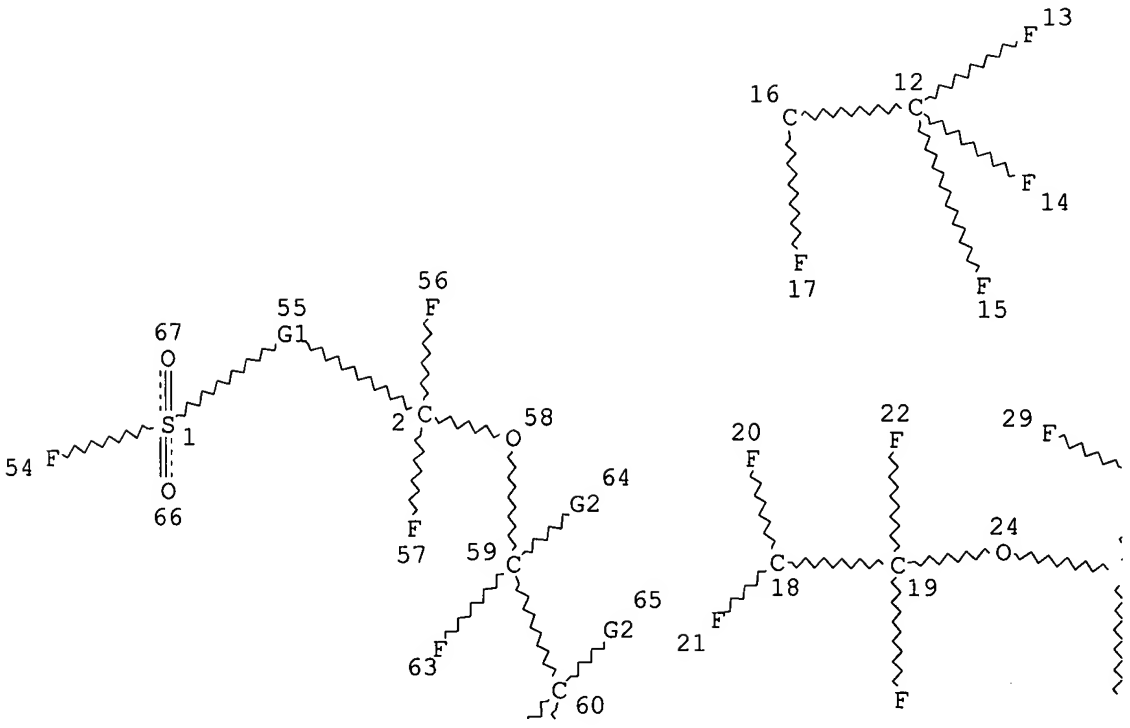

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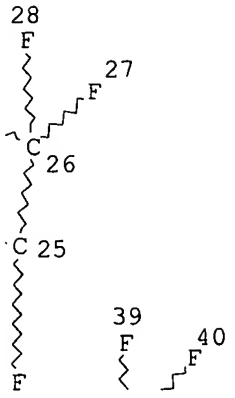
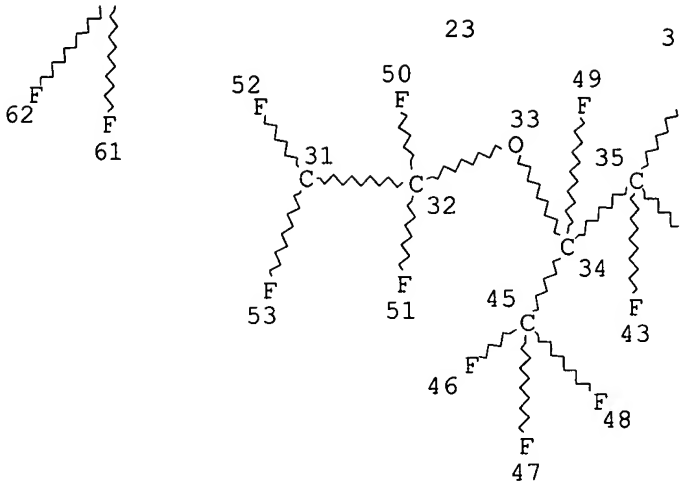
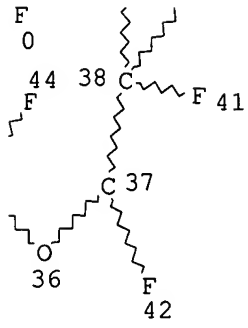


Page 2-B



Page 3-A



Page 3-B
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VAR G2=68/69
NODE ATTRIBUTES:
NSPEC IS C AT 1
NSPEC IS C AT 2
NSPEC IS C AT 3
NSPEC IS C AT 4

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MLEVEL  IS CLASS  AT   1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17
          18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38
          39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 56 57 58 59 60
          61 62 63 66 67 68 69
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  69

STEREO ATTRIBUTES: NONE
L25           6 SEA FILE=REGISTRY SSS FUL L23
L29           1 SEA FILE=CASREACT ABB=ON  PLU=ON  L20/RRT (L) L25/PRO


=> d ibib abs hit L29 1


L29  ANSWER 1 OF 1  CASREACT  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         141:260266  CASREACT
TITLE:                    Process for preparing (per)fluorohalogen ethers by the
                          reaction of acyl fluorides with halogenated
                          1,2-difluoroethylenes
INVENTOR(S):              Tortelli, Vito; Calini, Pierangelo; Millefanti,
                          Stefano
PATENT ASSIGNEE(S):       Solvay Solexis S.p.A., Italy
SOURCE:                   Eur. Pat. Appl., 8 pp.
                          CODEN: EPXXDW
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.   DATE
     ---------------   ----  --------       ---------------   --------
     EP 1457484         A1   20040915       EP 2004-4344      20040226
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     JP 2004269535      A2   20040930       JP 2004-65994     20040309
     US 2004199009      A1   20041007       US 2004-795995    20040310
     CN 1539818         A    20041027       CN 2004-10033085  20040311
PRIORITY APPLN. INFO.:                      IT 2003-MI444     20030311
OTHER SOURCE(S):          MARPAT 141:260266
AB   A process for preparing (per)fluorohalogen ethers containing the sulfonyl
     fluoride group FSO2RCF2OCAFCA1F2 [A, A1 = Cl, Br; R = (per)fluorinated
     optionally containing one or more oxygen atoms] is described which comprises
     the reaction of acyl fluorides FSO2RCOF in the liquid phase with elemental
     fluorine and with olefinic compds. CAF:CA1F at -120° to
     -20°, optionally in the presence of a solvent inert under the
     reaction conditions.
REFERENCE COUNT:          6     THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
                                RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
```
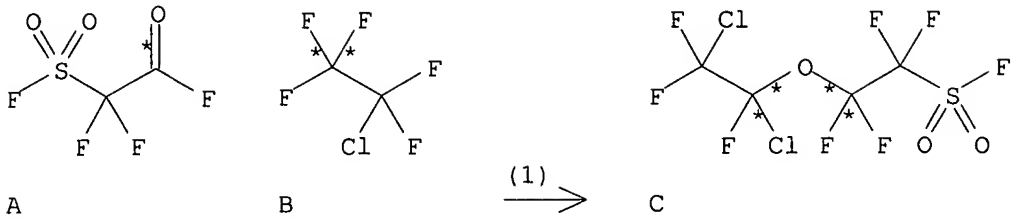

RX(1) OF 1 **A** + B ===> **C**



RX(1) RCT A **677-67-8**, B 76-15-3
PRO C **144728-59-6**
SOL 76-15-3 Ethane, chloropentafluoro-
CON SUBSTAGE(2) 3 hours